

### **REMARKS**

The present Amendment amends claims 1, 2, 4 and 5 and leaves claim 3 unchanged. Therefore, the present application has pending claims 1-5.

Applicants respectfully request the Examiner to contact Applicants' Attorney, the undersigned, by telephone to schedule an interview prior to examination of the present application so as to discuss the outstanding issues.

Claims 1-5 stand rejected under 35 USC §103(a) as being unpatentable over Bigus (U.S. Patent No. (U.S. Patent No. 5,442,730) in view of Lapourtre (U.S. Patent No. 5,136,708). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-5 are not taught or suggested by Bigus or Lapourtre whether taken individually or in combination with any of the of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention. Particularly, amendments were made to each of the independent claims to more clearly recite that the present invention is directed to a method of specifying a delay factor, a recording medium that stores thereon a program which when executed specifies a delay factor, and a management unit for specifying a delay factor. According to the present invention, a delay factor is specified in processing jobs which are executed in a predetermined order by a computer system having a plurality of computers.

As per the present invention, a collecting step is performed in which history information expressing history of execution of a job is collected from each computer of the computers assigned to each of the jobs which are executed in a predetermined order and a specifying step is performed in which a delay factor is decided, in accordance with the history information and definition information expressing an execution schedule of each job and a computer executing each job, to permit an analysis of the delay factor to be performed in a part of the computer system exclusive of other parts of the computer system.

The above described features of the present invention now more clearly recited in the claims allows for the specifying of delay factors in a computer system based on the result of job execution, job scheduling and the computer itself which executes the job. As per the present invention, the delay factor in a computer is specified and because the job schedule and the computer are both considered, the relationship between the computer and other computers on the network are considered. Thus, according to the present invention it allows for the specification as to whether the delay factor lies in a computer network which connects computers rather than other factors. Such features are clearly not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, these features of the present invention now more clearly recited in the claims are not taught or suggested by Bigus or Lapourtre whether taken individually or in combination with each other as suggested by the Examiner.

Bigus teaches a job scheduler which makes decisions concerning the order and frequency of access to a resource according to a substantially optimum delay

cost function. As taught by Bigus, the delay cost function is a single value function to which one or more inputs are provided and the cost of delay are calculated by a neural network as per Fig. 4 thereof.

As taught by Bigus, the job scheduler is used by a multi-user computer system 100 to schedule jobs of different classes and the delay cost of scheduling such jobs are calculated by a neural network. In Bigus, the users specifies desired performance objective for each job class, the computer system runs for a specified period of time collecting data on system performance and the differences between the actual and desired performance objectives are computed to adaptively train the neural network. As per Bigus, this process repeats until the delay cost functions stabilize near optimum values.

Thus, in Bigus, since the job, being an object of detection, is executed on a single computer, there is no teaching or suggestion in Bigus that consideration is given to the effect on delay by the computer system itself in which the job is executed and the effect on delay by the execution of other jobs by other computers on the network according to history and definition information of execution of the other jobs on other computers on the network as in the present invention. In other words, there is no teaching or suggestion in Bigus wherein consideration is given to the effects on delay by the computer executing the job and the other computers on the network executing other jobs as in the present invention.

The network as described in Bigus is a neural network which is entirely different from the network of the present invention as recited in the claims. A neural network is a network of processors configurable to perform predefined calculations.

The network of the present invention could, for example, be a local area network which interconnects various computers for communications. Further, in Bigus, the neural network is used to optimized the delay cost values using a delay cost value function. This teaching of Bigus is entirely different from that of the present invention as recited in the claims.

Thus, Bigus fails to teach or suggest specifying a delay factor in processing jobs which are executed in a predetermined order by a computer system having a plurality of computers interconnected to each other by a network as recited in the claims.

Further, Bigus fails to teach or suggest a collecting step in which history information expressing history of execution of a job is collected from each computer of the computer assigned to each of the jobs which are executed in a predetermined order as recited in the claims.

Still further, Bigus fails to teach or suggest a specifying step in which a delay factor is decided, in accordance with the history information collected by the collecting step and definition information expressing an execution schedule of each job by each computer of said computers and a computer executing such job to permit an analysis of the delay factor to be performed in a part of the computer system exclusive of other parts of the computer system as recited in the claims.

Therefore, as is quite clear from the above, Bigus fails to teach or suggest numerous features of the present invention as now more clearly recited in the claims. These features shown above not to be taught or suggest by Bigus are not supplied by any of the other references of record particularly Lapourtre. Accordingly,

combining the teachings of Bigus and Lapourtre in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Lapourtre teaches a distributed office automation system which assigns specific tasks among work stations. In Lapourtre, a distributed office automation system includes work stations and support stations which are interconnected via a network and which makes use of the functionality of one another by sub-contracting tasks. Lapourtre teaches that each of the stations is provided with a coordination unit which is continually aware of the state of the total system and which designates the required function module. Thus, in Lapourtre, the coordination unit can designate other function modules when a particular target function module cannot perform.

In the Office Action, the Examiner alleges that Lapourtre discloses an analysis of delay factors. However, no such teaching can be found in Lapourtre. In fact, Lapourtre describes in col. 11, lines 46-54 that the server which is unable to collect information is decided as the failed server and as such cannot be specified as a delay factor since it will not be used. According to the present invention as recited in the claims, the delay factor is generated based upon consideration of the job schedule and the computer upon which the job is to be executed. Such teachings cannot be found in Lapourtre.

Thus, Lapourtre, the same as Bigus, fails to teach or suggest specifying a delay factor in processing jobs which are executed in a predetermined order by a

computer system having a plurality of computers interconnected to each other by a network as recited in the claims.

Further, Lapourtre fails to teach or suggest a collecting step in which history information expressing history of execution of a job is collected from each computer of the computer assigned to each of the jobs which are executed in a predetermined order as recited in the claims.

Still further, Lapourtre, the same as Bigus, fails to teach or suggest a specifying step in which a delay factor is decided, in accordance with the history information collected by the collecting step and definition information expressing an execution schedule of each job by each computer of said computers and a computer executing such job to permit an analysis of the delay factor to be performed in a part of the computer system exclusive of other parts of the computer system as recited in the claims.

Therefore, both Bigus and Lapourtre fail to teach or suggest the features of the present invention as now more clearly recited in the claims and as such the combination does not render obvious the claimed invention. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1-5 as being unpatentable over Bigus in view of Lapourtre is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-5.

In view of the foregoing amendments and remarks, applicants submit that claims 1-5 are in condition for allowance. Accordingly, early allowance of claims 1-5 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (566.37536CX1).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



---

Carl I. Brundidge  
Registration No. 29,621

CIB/jdc  
(703) 684-1120